

RARE EARTH METAL OXIDE MEMORY ELEMENT BASED ON CHARGE STORAGE AND METHOD FOR MANUFACTURING SAME

ABSTRACT

5 A data storage element (and method of forming the same) includes a
substrate comprising a semiconductor material, a metal oxide layer including an
electrically insulating rare earth metal oxide disposed upon a surface of the
substrate, a conductive material disposed upon the metal oxide layer, a first
electrode electrically connected to the conductive material, and a second electrode
10 connected to the substrate.